TABLE III.3. STATIC ESTIMATES:
TAX LIABILITIES IN 1983 SIMULATED UNDER 1980
AND 1983 LAW (In billions of dollars)

		Expanded Adjusted Gross Income Group				
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
(1) Indexed 1980 Tax Law	311.1	66.6	54.8	112.4	58.7	18.6
(2) Unindexed 1980 Tax Law	353.6	69.7	62.0	192.3	68.3	24.2
(3) Unindexed 1980 Tax Law with Rate Cuts	287.0	57.4	50.6	104.6	55.1	19.4
(4) Rate Cuts and Tax Base Changes (1983 Law)	273.1	56.4	46.7	97.4	53.5	19.1
(5) Percent Change from Bracket Creep [(2)/(1)]	+14	+5	+13	+15	+16	+30
(6) Percent Change from Rate Cuts [(3)/(2)]	-19	-18	-18	-19	-19	-20
(7) Percent Change from Tax Base Changes [(4)/(3)]	-5	-2	-8	-7	-3	-2
(8) Total Percent Change a/ [(4)/(1)]	-12	-15	-15	-13	-9	+3

a. Effect of compounding previous three rows.

Rows (3) and (4) of Table III.3 show simulated tax liabilities under unindexed 1980 law, first with just the changes in tax rates and then with the combined changes in tax rates and the definition of the tax base. Compared to tax liabilities under unindexed 1980 law, the rate cuts alone reduced liabilities by 19 percent as shown in row (6); given these rate cuts, the changes in the definition of the tax base reduced liabilities by an additional 5 percent as shown in row (7). The percentage decrease in liabilities because of the rate cuts was nearly constant across income groups, with taxpayers in the highest income group receiving a slightly lower reduction of 18 percent and taxpayers in the bottom half of the distribution receiving a slightly higher reduction of 20 percent. The percentage reduction in tax liabilities due to changes in the definition of the tax base, while only averaging about 5 percent, was less evenly distributed. Except for taxpayers in the upper 1 percent of the distribution, taxpayers in the top 25 percent of the income distribution received a 7 to 8 percent reduction, while the remaining three-quarters of taxpayers received a reduction of 2 to 3 percent.

The unequal distribution of reduced tax liabilities from the changes in the tax base reflects the unequal distribution of deductions for IRA contributions and two-earner married couples, the two major changes in the tax base. Table III.4 shows the distribution of these deductions in 1983 by income group. Seventy-six percent of both the deductions for IRAs and the deduction for two-earner couples were taken by taxpayers in the upper 25 percent of the income distribution. The importance of these deductions relative to taxable income, however, varied greatly within the top quartile. IRA and second-earner deductions were about 4 percent of taxable income for the top quartile as a whole, but less than 2 percent of taxable income for the top 1 percent.

TABLE III.4. 1983 DEDUCTIONS FOR CONTRIBUTIONS TO IRAs AND FOR TWO-EARNER MARRIED COUPLES

		Expanded Adjusted Gross Income Group				
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
IRA Deductions						
Billions of dollars	32.1	1.9	7.2	15.2	6.0	1.7
Percent of total	100	6	23	47	19	5
Two-Earner Deductions						
Billions of dollars	19.8	0.4	3.4	11.3	3.9	0.7
Percent of total	100	2	17	57	20	4
IRA Plus Two-Earner Deductions						
Billions of dollars	51.8	2.3	10.7	26.5	9.9	2.4
Percent of total	100	4	21	51	19	5
Taxable Income (Billions of Dollars)	1,544.9	142.3	192.8	562.5	404.2	242.5
IRA plus Two-Earner Deductions as a Percent of Taxable Income	3.4	1.6	5.5	4.7	2.4	1.0

Row (4) of Table III.3 shows simulated tax liabilities under actual 1983 law, while row (8) shows the percent difference between these taxes and taxes simulated under indexed 1980 law. The percentage reduction in tax liabilities from all changes reflects not only the rate cuts and the redefinition of the tax base but also the erosion in the real value of the tax brackets, ZBA, personal exemptions, and the earned income credit--all nonbehavioral changes. Neither ERTA nor TEFRA increased the personal exemption amount or the maximum amount of the earned income credit. Thus, compared to their relative position in 1980, taxpayers in the lower half of the distribution actually had tax liabilities that were 3 percent higher in 1983 in spite of the reduction in tax rates and the additional reduction in tax liabilities due to changes in the definition of the tax base. While the average reduction in tax liabilities from all changes was about 12 percent, the largest reductions went to taxpayers in the upper 5 percent of the income distribution whose tax liabilities were reduced by 15 percent.

Table III.5 illustrates the effects of the ERTA and TEFRA tax changes in a slightly different fashion, showing shares of the total tax burden paid by various income groups. The table shows the share of the tax burden paid by different income groups in 1983 compared to the shares they would have paid under an indexed version of 1980 law at the 1983 level and distribution of income. Overall, there were only small changes in the shares paid by income groups in the upper half of the income distribution. As shown in row (8), the share of the upper 5 percent declined by about 3 percent while the share paid by the remaining taxpayers in the upper 25 percent declined by about 1 percent. The share of the next highest quartile increased by about 4 percent. However, compared to their relative position in 1980, the share of taxes paid by taxpayers in the bottom half of the income distribution increased by almost 17 percent.

Most of the change in the distribution of tax liabilities occurred because of the differential effects of bracket creep. The percentage change in shares from bracket creep is shown in row (5) of the table. Bracket creep would have reduced the share of taxes paid by taxpayers in the upper 1 percent of the distribution by nearly 8 percent while increasing the share of taxes paid by taxpayers in the bottom half of the distribution by almost 15 percent.

Rows (2) and (3) of Table III.5 show the shares of tax liabilities under unindexed 1980 law and unindexed 1980 law with the rate cuts. Given the almost constant percentage reduction in tax liabilities by income class because of the rate cuts, there is little change in the distribution of tax shares. Row (4) shows the shares resulting from both the rate cuts and the changes in the definition of the income tax base. The disproportionate reduction from the base changes going to taxpayers in the 2nd through 25th percentiles of the income distribution is reflected in a slightly reduced share for those groups, and a slightly increased share for the remaining income groups.

TABLE III.5. SHARE OF TAX LIABILITIES IN 1983: SIMULATED UNDER 1980 AND 1983 LAW (In percent of total liabilities)

		Expanded Adjusted Gross Income Group				
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
(1) Indexed 1980 Tax Law	100.0	21.4	17.6	36.1	18.9	6.0
(2) Unindexed 1980 Tax Law	100.0	19.7	17.5	36.6	19.3	6.9
(3) Unindexed 1980 Tax Law with Rate Cuts	100.0	20.0	17.6	36.4	19.2	6.8
(4) Rate Cuts and Tax Base Changes (1983 Tax Law)	100.0	20.7	17.1	35.7	19.6	7.0
(5) Percent Change in Shares from Bracket Creep [(2)/(1)]	—	-7.9	-0.5	+1.2	+2.5	+14.7
(6) Percent Change in Shares from Rate Cuts Only [(3)/(2)]	—	+1.4	+0.5	-0.4	-0.7	-1.2
(7) Percent Change in Shares from Tax Base Changes [(4)/(3)]	—	+3.4	-2.8	-2.1	+2.1	+3.0
(8) Total Percent Change in Shares [(4)/(1)]	—	-3.5	-2.9	-1.3	+3.9	+16.7

CONCLUSIONS

This chapter has compared tax liabilities under 1980 and 1983 tax laws under the assumption of a constant 1983 level and distribution of income. These comparisons made it possible to isolate the static effects of the changes in tax law.

ERTA and TEFRA lowered 1983 tax liabilities by about 12 percent compared to what they would have been if the equivalent of 1980 tax law had been in effect in 1983. The static tax reduction between 1980 and 1983 was proportionately greatest for taxpayers in the top quartile of the income distribution. Taxpayers in the upper 1 percent of the income distribution received a 15 percent reduction in taxes from these static changes. As a result, the share of taxes paid by this group would have declined by 3.5 percent if the income distribution had remained unchanged. Because the ERTA tax cuts were not sufficient to offset the effects of bracket creep, relative to 1980, taxpayers in the bottom half of the income distribution would have paid a greater share of tax liabilities in 1983, given a fixed income distribution. This relative tax increase at the bottom would have occurred because the benefits of lower tax rates and increased deductions for this group were more than offset by erosion of the real value of personal exemptions and the ZBA.

Other simulations presented in this chapter have shown how different components of the tax law changes contributed to the static effect. Changes in the tax base, including expanded IRA deductions and the second earner deduction, lowered taxes by a greater proportion for taxpayers in the upper quartile of the income distribution.

The next chapter relaxes the assumption of a constant 1983 distribution of income and considers how the distribution of incomes changed between 1980 and 1983, and to what extent these changes can be attributed to changes in tax law.

CHAPTER IV

BEHAVIORAL RESPONSES TO TAX POLICY CHANGES:

THE EVIDENCE FROM 1980-83

Chapters II and III examined recent changes in the income tax burden from two very different perspectives. Chapter II described what actually happened to the growth in taxes paid among income groups between 1980 and 1983. The data show that the largest percentage increase in taxes paid was by returns in the top percentile of the income distribution. This occurred because income grew more rapidly in the top group than for taxpayers as a whole, with growth in the realization of capital gains contributing a large amount of the increase in relative income in the top percentile.

In Chapter III, the effects of the changes in tax policy resulting both from statutory changes in ERTA and TEFRA and from the movement of taxpayers into higher rate brackets were examined, assuming that these changes did not affect the level of economic activity or the distribution of income. These static estimates show that the largest percentage tax reduction went to returns in the top quarter of the income distribution, while returns in the bottom half experienced a slight tax increase.

This difference between the actual change in the distribution of taxes paid and the distribution based on static analysis suggests the possibility that higher tax payments by the top percentile of returns may have resulted at least in part from behavioral responses to the ERTA reductions in marginal tax rates. These behavioral responses either could have caused personal income to grow faster than average for taxpayers in the upper part of the income distribution, or taxable income to increase relative to personal income for these taxpayers. Behavioral changes that could have raised the tax base relative to personal income include:

- Increased realization of capital gains relative to personal income;

- An increase in the ratio of taxable money wages to total compensation resulting from, for example, reduced demand by employees for nontaxable fringe benefits such as employer contributions for medical insurance;

- A reduction in the ratio of itemized deductions to personal income resulting from, for example, smaller growth in charitable contributions or in borrowing to finance purchases of homes, automobiles, or other consumer durables; and

- An increase in the proportion of income from investments attributable to taxable sources, such as interest and dividends, rather than nontaxable sources such as corporate retained earnings, tax-exempt bonds, or "tax-shelter" investments that are allowed very favorable capital recovery deductions under current law.

A number of these behavioral effects have been studied by economists. Separate studies have examined the effects of changes in marginal tax rates on realized capital gains, charitable contributions, labor supply (especially of second earners), and demand for fringe benefits, among others. Behavioral responses to tax changes, however, were not the only factor that might have changed the distribution of incomes, and thus the distribution of taxes paid, during this period.

ERTA reduced corporate income taxes by instituting the Accelerated Cost Recovery System (ACRS) of depreciation deductions and by liberalizing the Investment Tax Credit (ITC).[1] TEFRA took back some of these reductions, but the net effect of the two tax bills was to lower corporate taxes, leaving corporations with higher after-tax incomes. This income was either distributed as dividends, directly increasing individual incomes, or kept by the corporation as retained earnings. Higher retained earnings tend to increase the value of corporate stock. This increases individual incomes through higher realized capital gains when this stock is sold. Thus some change in the distribution of individual incomes resulted directly from the corporate tax changes in ERTA and TEFRA.

In addition to tax policy changes, between 1980 and 1983 there were also significant changes in monetary policy, in the level and composition of federal spending, in deficits, and in regulatory policies. The economy experienced a major recession, a significant decline in the rate of inflation, and considerable instability in both real and nominal interest rates. All of these factors also contributed to changes in the distribution of income between 1980 and 1983, but their effects are difficult to quantify precisely.

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1. Other provisions affecting corporations included a reduction of the graduated rates for small corporations and expensing of the first $5,000 of depreciable equipment.

This chapter develops a simple baseline projection that assumes that, in the absence of tax policy changes, income items and deductions per return would have grown at the rate of personal income per capita between 1980 and 1983 in all income groups. This assumption that all incomes grew at the average growth rate between 1980 and 1983 implies that the distribution of income remained unchanged.

This baseline projection is then compared with a slightly altered projection that allows the net corporate tax cuts in ERTA and TEFRA to change the distribution of individual incomes by increasing dividends and realized capital gains, but in which average incomes grow as in the baseline.

Next, this projection is compared with actual levels of different components of income and deductions for 1983, to show in more detail factors that might explain the higher-than-average growth in realizations of capital gains and in wages for the top percentile of returns between 1980 and 1983. This analysis in effect assumes that tax policy changes did not alter the overall growth of the economy but may have affected the distribution of income and also the ratio of the tax base to personal income per capita.

This chapter ends with a brief discussion of how other economic changes may have altered the distribution of income and taxes paid over this period.

COMPARISON OF ACTUAL AND PROJECTED TAXES AND INCOME FOR 1983

Table IV.1 compares actual and projected taxes by income groups for 1983. The first row of the table shows actual taxes paid in 1980. The second row of the table shows simulated baseline taxes for 1983. These taxes were computed by "growing" income per return by 21.9 percent, the rate of growth of personal income per capita between 1980 and 1983, and using indexed 1980 tax law.[2] Actual 1983 taxes paid, as shown in the fifth row of the table, are about $40 billion lower than projected taxes. Of this amount, slightly more than $3 billion results from lower taxes paid by the top percentile of returns, compared to the projected baseline.

2. Because total returns increased by about 2.6 percent over this period, the projected increase in income taxes paid is about 25 percent.

TABLE IV.1. EFFECTS OF TAX POLICY CHANGES: COMPARISON OF PROJECTED AND ACTUAL TAXES PAID BY INCOME GROUPS (In billions of dollars)

		Expanded Adjusted Gross Income Group				
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
(1) Actual Taxes—1980	250.3	48.0	44.6	90.7	49.7	17.3
(2) Baseline—(Indexed 1980 law; 1980 distribution; 1983 level)	312.6	59.8	55.6	113.5	62.1	21.7
(3) Baseline Adjusted for Corporate Tax Cuts	313.2	60.5	55.7	113.3	62.0	21.6
(4) Indexed 1980 Law; 1983 Distribution; 1983 Level	311.1	66.6	54.8	112.4	58.7	18.6
(5) Actual Taxes—1983	273.1	56.4	46.7	97.4	53.5	19.1
Static Change [(5)-(4)]	-38.0	-10.2	-8.1	-15.0	-5.2	+0.5
Feedback and Other [(4)-(3)]	-2.1	+6.1	-0.9	-0.9	-3.3	-3.0
Corporate Tax Cut Change [(3)-(2)]	+0.6	+0.7	+0.1	-0.2	-0.1	-0.1
Total Change [(5)-(2)]	-39.5	-3.4	-8.9	-16.1	-8.6	-2.6

The change in taxes paid between 1980 and 1983 can be divided into three components--the effect of the corporate tax cuts, static changes, and other, including feedback effects. The third row of the table shows the effect of simulating baseline individual income taxes for 1983 using indexed 1980 law and the 1980 distribution of income after changing that distribution but not the level of income to reflect increased dividends and realized capital gains from the corporate tax changes. The difference between the second and third rows is the effect of the corporate tax changes on individual taxes. This effect is small, an increase in taxes of less than $1 billion, most of which is attributable to taxpayers in the upper 1 percent of the income distribution.

The estimate of the effect of the corporate tax cut on individual income tax payments in 1983 is based on the static estimate of the revenue loss from the corporate tax provisions of ERTA, offset by the revenue gain from corporate provisions in TEFRA.[3] CBO estimates that the net effect of these provisions was a revenue loss of about $13.4 billion in 1983 compared with pre-ERTA law. However, the total revenue loss in 1983 overstates the permanent reduction in corporate taxes because larger depreciation deductions under ACRS (relative to 1980 law) in the early years of an asset's life are followed by smaller deductions later. In a sense, ACRS can be thought of as an interest-free loan, rather than as a permanent reduction in taxes.

The permanent annual tax savings from corporate tax provisions in ERTA and TEFRA are thus only a portion of the estimated one-year tax saving for 1983. CBO estimates these benefits to be roughly $9.1 billion at 1983 levels.[4] The ratio of the $9.1 billion tax cut to 1983 after-tax profits is used to attribute a portion of actual 1983 dividends received by individuals to the corporate tax cut.[5] This fraction of dividends was added to simulated 1983 taxable income for returns that reported dividends in 1980.

The ratio of the tax cut to 1983 after-tax profits[6] is also used to attribute to the corporate tax cut a portion of 1983 capital gains from sales of corporate stock. Data from the IRS 1981 Capital Assets File were used to estimate the share of total capital gains in AGI that come from sales of corporate stock.[7] The fraction of capital gains attributable to the corporate tax changes was added

3. These computations implicitly assume that corporate taxes are paid by corporate shareholders. This static assumption is analogous to the assumption that individual income taxes are paid by individual recipients of wages, interest, dividends, and capital gains, and not shifted to others through reductions in work effort and saving, or changes in the composition of investment. Most economists believe that, in the longer run, corporate taxes are shifted either to other owners of capital or to wage earners by reducing the size of the capital stock.

4. The revenue loss from ACRS-related provisions of ERTA (offset by those from TEFRA) becomes a relatively stable fraction of GNP by 1990. This 1990 share of GNP was used to allocate the 1983 revenue loss between the permanent benefit to corporations and the temporary benefit of tax deferral. The revenue loss from provisions that do not involve deferral of taxes is taken as a permanent tax cut.

5. The purpose here is to allocate actual 1983 dividends and capital gains between those attributable to the corporate tax cut and those unrelated to the corporate cut. A more sophisticated analysis of the relationships between the corporate tax cuts and individual income taxes would require a separate study, and is outside the scope of this effort.

6. After-tax profits are as reported in the *Economic Report of the President* (February 1986), p. 351.

7. 1981 is the most recent year for which data on asset sales reported on tax returns are available.

to simulated 1983 taxable income for returns that reported net capital gains in AGI in 1980.

After adjusting dividends and capital gains for increases due to the corporate tax cuts, total income was readjusted to maintain an average growth rate of 21.9 percent.

The fourth row of Table IV.1 shows the results of simulating indexed 1980 law on the 1983 level and distribution of income. These are the taxes that would have been paid if adjusted 1980 law had been applied to 1983 taxpayers. The difference between rows (4) and (5) is the "static" effect of the tax policy changes that was analyzed in Chapter III. This static effect reduced tax liabilities by about $38 billion, of which slightly more than $10.2 billion was a tax cut for the highest percentile of returns.

The difference between rows (3) and (4) takes account of all factors other than the corporate effects and the "static" changes. These "other" effects--including behavioral "feedback"--are estimated at about $2 billion for all taxpayers, not a significant amount given the imprecision of these estimates. For the top percentile, however, "feedback and other" increased taxes paid by $6.1 billion, offsetting about 60 percent of the static tax cut for this group.

Another way to look at the data in Table IV.1 is to compare taxes paid by the top percentile with total taxes. The share paid by Group 1 is 19.1 percent in the baseline 1983 projection. As seen in Chapter III, the static change by itself would have reduced the share of taxes paid by this group by about 3.5 percent, resulting in an 18.5 percent share of total tax liabilities for taxpayers in the upper 1 percent of the income distribution. The actual tax share paid by the top percentile, however, increased to 20.6 percent in 1983.

Table IV.2 looks at the components that contributed to higher-than-projected growth in taxes paid per return for the top percentile of returns. The first column of the table shows actual 1980 taxable income, types of income, deductions, and taxes paid per return. The second column shows projected 1983 values, computed by increasing total income per return by 21.9 percent, but allowing for different growth rates of certain types of income. (Capital gains and dividends were increased by a larger percent to reflect the effects of the corporate tax reductions, while all other incomes were increased by a slightly smaller percent.) This is compared to actual 1983 values for income, deductions, and taxes paid per return in Column (3). The difference between actual and projected values is shown in Column (4). Column (5) shows the percentage increase in taxable income attributable to the excess of the actual value of each item over its projected value.

The two items that contribute significantly to the faster than average growth in taxable income in the top percentile are capital gains in AGI and wages and salaries. Average capital gains in AGI per return are about $10,400 greater than the projected amount; this difference is equal to 7.3 percent of projected taxable income. Wages and salaries per return are about $7,650 billion above the projected amount, an amount equal to 5.4 percent of projected taxable income in the top percentile. Note that 1983 taxable income is significantly

TABLE IV.2. COMPARISON OF ACTUAL AND PROJECTED INCOME AND DEDUCTIONS PER RETURN: SELECTED ITEMS: TOP PERCENTILE OF RETURNS

Item	(1) Actual 1980 ($)	(2) Projected 1983 ($)	(3) Actual 1983 ($)	(4) Actual Minus Projected 1983 ($)	(5) Effect on Taxable Income a/ (%)	(6) Actual Growth 1980-1983 b/ (%)
Taxable Income	116,237	142,448	147,664	5,216		27.0
Wages and salaries	76,264	92,153	99,804	7,651	5.4	30.9
Interest income	13,917	16,922	18,798	1,876	1.3	35.1
Dividends in AGI	17,034	22,126	18,827	-3,299	-2.3	10.5
Net capital gains in AGI	18,441	22,984	33,404	10,420	7.3	81.1
Net capital losses	307	382	278	-104	0.1	-9.5
Net business income	14,667	17,613	10,253	-7,360	-5.2	-30.1
Other	7,974	9,541	12,747	3,206	2.3	59.9
Excess Itemized Deductions	29,007	35,178	40,579	5,401	-3.8	39.9
Interest deductions	9,651	11,710	15,125	3,415	-2.4	56.7
Medical deductions	623	763	502	-261	0.2	-19.4
Charitable deductions	6,057	7,323	8,041	718	-0.5	32.8
TOTAL TAX	50,850	62,498	58,741	-3,757		15.5

a. Column (4)/$142,448 (projected 1983 taxable income).

b. (Column (3) - Column (1))/Column (1).

reduced by the lower-than-projected amount of net business income and the higher-than-projected amount of excess itemized deductions.[8]

The data in Table IV.2 suggest that growth in capital gains and wage and salary income are the two most likely sources of behavioral response to explain the increase in the tax share of the top percentile of returns. The next section of this chapter, therefore, examines the 1980-1983 data on capital gains and wages and salaries in more detail to assess the possible contribution of behavioral responses.

POSSIBLE BEHAVIORAL EXPLANATIONS: CAPITAL GAINS AND WAGES AND SALARIES

Capital Gains

As shown in Table IV.2, capital gains per return in the top percentile increased by a much larger percentage than overall personal income per capita between 1980 and 1983. This contributed greatly to the increased tax share paid by the top percentile of returns.

Table IV.3 shows growth in capital gains realizations by income group and the difference in the average marginal tax rate on 1983 capital gains between 1983 law and indexed 1980 law. Capital gains per return increased by 84.2 percent for the top group--from $42,906 in 1980 to $79,053 in 1983. For all other groups, both the amount of capital gains per return and the growth rate were

8. It is expected that itemized deductions might have grown less rapidly for the top group, due to the reduced benefit from deductions at a lower marginal tax rate. The fact that they did not, however, does not in itself contradict assertions that marginal tax rates affect behavior. For example, interest deductions above the projected amount could result from changes in interest rates rather than from any response to lower marginal tax rates. Interest rates on new home mortgage loans were less than 10 percent throughout the 1960s and 1970s until 1979, but averaged over 12.5 percent for every year between 1980 and 1983. The higher interest deductions may reflect the cumulative effect of higher interest rates on loans originated after 1980.

Charitable contributions also increased more rapidly than income in the top group, despite the fact that lower marginal tax rates by themselves raise the after-tax cost of charitable giving. Again, this should not be interpreted as a refutation of econometric work that shows a negative relationship between charitable contributions and marginal tax rates, holding other factors constant. Rather, it merely illustrates that however much marginal tax rates may have reduced charitable and other deductions below what they would have been under 1980 law, this cannot explain the increase in the tax share of the top percentile between 1980 and 1983.

TABLE IV.3. GROWTH IN CAPITAL GAINS AND CHANGES IN MARGINAL TAX RATES ON GAINS: 1980-1983

	Total	Expanded Adjusted Gross Income Group Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
Gains/Return						
1980 ($)	794	42,906	3,407	640	214	65
1983 ($)	1,280	79,053	4,582	778	287	93
Growth (%)	61.2	84.2	34.5	21.6	34.1	43.1
Marginal Tax Rate on Gains						
1980 (%)	19.4	25.2	15.1	10.5	6.7	2.7
1983 (%)	15.6	19.4	15.0	9.3	5.8	2.5
Change (%)	-19.3	-23.0	-0.5	-11.2	-11.0	0.1
Marginal After-Tax Proceeds of Gains						
1980 (%)	80.6	74.8	84.9	89.5	93.3	97.3
1983 (%)	84.4	80.6	85.0	90.7	94.2	97.5
Change	4.7	7.8	0.1	1.3	1.0	0.2

much smaller. The marginal tax rate on capital gains in 1983 for the top group was 23 percent lower than the corresponding marginal tax rate under indexed 1980 law, compared to at most 11 percent for all the other groups.[9] More importantly, the marginal after-tax proceeds per dollar of pretax capital gains were almost 8 percent higher under 1983 law for group 1, but no more than 1.3 percent higher for all other groups. (Marginal after-tax proceeds are one minus the marginal tax rate. They are higher for the top percentile because the top percentile had a larger percentage decline in the marginal tax rate <u>and</u> because marginal tax rates are higher in the top groups than in lower groups, so that an equal percentage reduction in marginal rates in all groups produces a larger percentage increase in after-tax income in the highest income groups.) Thus,

9. For each group, the marginal tax rate on capital gains is computed by adding a dollar to net long-term capital gains of all returns with positive capital gains on the SOI data file and computing the additional tax liability per dollar of additional capital gain for each return. This marginal tax rate is then weighted by net capital gains to compute a weighted average of the marginal tax rate on capital gains.

the increase in realizations was largest for the group with the greatest additional incentive to realize more gains.

A number of studies in the past decade have identified a significant negative relationship betwen realization of capital gains amd marginal tax rates. Because gains are taxed only when realized, not as accrued, and because gains passed at death escape tax entirely, there is a strong incentive to defer or avoid realizations if tax rates on realized gains become too high. Some studies have found that lower tax rates on capital gains induce so much additional realization that revenue from capital gains taxes increases; others find a smaller response, showing that revenue decreases when the tax rate is lowered below levels prevailing in recent years.[10] The Department of the Treasury recently published a report on the capital gains tax reductions of 1978 that includes detailed econometric work on factors influencing the realization of capital gains.[11] For purposes of illustration, this study uses an equation similar to the one estimated in the Treasury report to examine the extent to which the increased realizations of capital gains between 1980 and 1983 may be attributable to tax policy changes.

The Treasury report found that the growth in capital gains in any year was positively related to the change in the inflationary and real components of gross national product (GNP) and the change in the value of corporate shares held by individuals, negatively related to the change in the maximum marginal tax rate on capital gains, and positively related to the change in the maximum marginal tax rate on capital gains in the previous year.[12] The lagged tax rate ef-

10. For examples of these studies, see Martin S. Feldstein, Joel Slemrod, and Shlomo Yitzhaki, "The Effects of Taxation on the Selling of Corporate Stock and the Realization of Capital Gains," *Quarterly Journal of Economics*, vol. 94 (June 1980) pp. 777-791; Joseph J. Minarik, "The Effect of Taxation on the Selling of Corporate Stock and the Realization of Capital Gains: Comment," *Quarterly Journal of Economics*, vol. 98 (February 1984); Gerald E. Auten and Charles Clotfelter, "Permanent Versus Transitory Tax Effects and the Realization of Capital Gains," *Quarterly Journal of Economics*, vol. XCVII (November 1982) pp. 613-632; Joseph J. Minarik, "Capital Gains," in Henry Aaron and Joseph Pechman, eds., *How Taxes Affect Economic Behavior* (Washington, D.C., The Brookings Institution, 1981) pp. 241-277; Martin S. Feldstein and Shlomo Yitzhaki, "The Effects of the Capital Gains Tax on the Selling and Switching of Common Stock," *Journal of Public Economics*, vol. 9 (February 1978) pp. 17-36; Gerald E. Auten, "Capital Gains: An Evaluation of the 1978 and 1981 Tax Cuts," in Charls E. Walker and Mark A. Bloomfield, eds., *New Directions in Federal Tax Policy For the 1980s*, (Cambridge, Massachusetts: Ballinger Publishing Company, 1983); and Lawrence B. Lindsey, "Capital Gains: Realizations and Revenues," (Cambridge, Mass: National Bureau of Economic Research Inc., April 1986), Working Paper No. 1893.

11. See Office of the Secretary of the Treasury, Office of Tax Analysis, *Report to Congress on the Capital Gains Tax Reductions of 1978* (September, 1985).

12. See Treasury Department, *Capital Gains Tax Reductions of 1978*, p. 176. The maximum marginal tax rate on capital gains is defined as the average marginal tax rate on capital gains for taxpayers with AGI greater than $200,000 in 1982 dollars.

effect is smaller than the immediate one. The two effects of changes in marginal tax rates--the immediate and lagged effect--reflect observations that the first-year response of capital gains realizations to changes in the marginal tax rate is greater than the permanent response. That is, a permanent lowering of marginal tax rates on gains results in a permanent increase in gains realizations, but this increase is smaller than the increase in the year the tax rate changes.

The Treasury equation that explained year-to-year changes in realized capital gains was estimated for the years 1954 through 1982. CBO estimated a modified version of the Treasury equation for the years 1954 through 1983. The difference between the CBO equation and the Treasury equation are: (1) CBO expresses the variables in the equations as levels, instead of rates of change; (2) CBO uses a logarithmic functional form, while the Treasury equation is linear; (3) CBO uses real personal income instead of real GNP as the measure of income in the equation; (4) CBO uses real stock market values (deflated by the GNP deflator) instead of nominal stock market values as an explanatory variable in the equation (so that the effects of price level changes and real share value changes are separated); and (5) CBO altered the definition of the marginal tax rate on gains from that used by Treasury, to take account of capital gains taxes paid by taxpayers below the top income group. The CBO capital gains equation is described in Appendix F.

The CBO equation explains about 98 percent of the year-to- year variation in capital gains realizations between 1954 and 1983. As in the Treasury study, capital gains are found to be positively related to real income, the price level, and the value of corporate shares held by individuals. The tax variable in the CBO equation is one minus the marginal tax rate; this measures the after-tax proceeds from realizations of capital gains. Realizations are found to be positively related to after-tax proceeds in the current year and negatively related to after-tax proceeds in the prior year. This is analogous to the Treasury result that capital gains are negatively related to the marginal tax rate in the current year and positively related to the prior year's marginal tax rate.

The CBO equation overpredicts capital gains realizations by about 3 percent in 1980, 5 percent in 1981, and 8 percent in 1982, but underpredicts realizations by more than 13 percent in 1983. (The Treasury equation underpredicts 1983 realizations by an even larger amount.) The error for 1983 means that a significant part of the growth in capital gains above the baseline between 1980 and 1983 cannot be explained by the historical relationship between capital gains realizations and real income, the price level, stock market values, and marginal tax rates on gains. This means either that some major determinants of capital gains have not been adequately captured by the Treasury and CBO equations or that other factors unique to 1983 resulted in increased realizations of gains.[13]

Table IV.4 illustrates the effects of different factors on the growth of capital gains realizations between 1980 and 1983. Row (1) of the table shows that capital gains realizations, defined as net long-term gains in excess of short-term losses plus net short-term gains for taxpayers with net gains, increased from $74.6 billion in 1980 to $123.3 billion in 1983. As shown in Row (2), the CBO equation predicts gains of $77.7 billion in 1980, which is very close to actual gains, but predicts gains of $108.0 billion in 1983, about $15.3 billion below the actual amount.

Row (3) of the table shows gains that would have been predicted by the CBO equation if marginal tax rates on capital gains had remained unchanged between 1980 and 1983 and if stock market values had increased at the same rate as personal income during that period. Marginal tax rates on capital gains, as defined in the estimating equation, decreased from 19.3 percent in 1980 to 15.4 percent in 1983.[14] The value of corporate shares held by individuals actually declined between 1980 and 1981, but then increased more rapidly than personal income between 1981 and 1983. Over the entire three-year period, stock values increased by a slightly smaller percentage than personal income. The lower gains due to the stock market effect were outweighed, however, by the increase due to lower tax rates. As a result, predicted gains under 1983 law [row (2)] are about $3.6 billion higher than gains predicted by the equation at 1980 tax rates and if the stock market had grown at the same rate as personal income [row(3)].

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13. One possible explanation of the 1983 forecast error is that capital gains enforcement provisions were significantly tightened in TEFRA, enacted in 1982. Under one provision of TEFRA, securities brokers were for the first time required to report transactions of customers to the Internal Revenue Service and also to furnish information returns to customers. It is believed that there was significant noncompliance prior to 1982; a preliminary 1981 IRS estimate that capital gains reporting was below 60 percent was cited by the Joint Tax Committee as one reason for the new enforcement provisions in TEFRA. See Joint Committee on Taxation, *General Explanation of the Revenue Provisions of the Tax Equity and Fiscal Responsibility Act of 1982*, 97:2 (December 31, 1982), p. 194.

    If improved compliance is responsible for the apparent upward shift in capital gains realizations in 1983, then this higher rate of realizations, compared to those predicted by the CBO equation, should continue in 1984 and 1985. Final data on capital gains realizations for 1984 are not yet available; preliminary figures suggest continued large growth in realizations in 1984.

14. The marginal tax rate used in the equation is an average rate on gains realized in 6 income groups, weighted by 1983 realizations by income group. See Appendix F.

TABLE IV.4. ESTIMATED EFFECTS OF DIFFERENT FACTORS ON CAPITAL GAINS REALIZATIONS: 1980-1983
(By calendar year, in billions of dollars)

	1980	1981	1982	1983
(1) Capital Gains, Actual a/	74.6	80.8	90.2	123.3
(2) Predicted Capital Gains, CBO equation b/	77.7	85.4	98.6	108.0
(3) Predicted Capital Gains, CBO Equation, Indexed 1980 Law c/	77.7	89.9	96.4	104.3
(4) Actual Gains Minus Predicted Gains, 1980 Law [(1)-(3)]	-3.2	-9.1	-6.2	19.0
(5) Effect of Tax Rates d/	0.0	4.1	8.2	5.2
(6) Effect of Stock Market Values e/	0.0	-8.3	-5.6	-1.5
(7) Interaction Term	0.0	-0.4	-0.5	-0.1
(8) Unexplained [(1)-(2)]	-3.2	-4.6	-8.4	15.3
(9) ERTA Baseline f/	74.6	83.2	88.2	93.7
Predicted Gains, 1980 Law Minus ERTA Baseline [(3)-(9)] g/	3.2	6.7	8.2	10.6

a. Net long-term capital gains in excess of short-term losses plus net short-term gains for returns with gains.

b. The equation is described in Appendix F.

c. Derived by assuming marginal tax rates on capital gains remained at 1980 level and that stock market values increased by the same annual percentage rate as personal income.

d. Sum of contribution of current and lagged maximum marginal tax rate on capital gains.

e. Contribution of difference between actual amount and amount with growth equal to rate of growth of personal income.

f. Computed by growing 1980 gains at same rate as growth in personal income.

g. Estimated effect of income growth on ratio of capital gains to income.

Rows (5) to (8) of the table show the components of the difference between actual gains [row (1)] and gains predicted by the equation under 1980 law [row (3)]. In 1983, actual gains were $19.0 billion in excess of gains predicted under 1980 law. Of this amount, the coefficients of the equation imply that $5.2 billion, or about 27 percent, was due to lower marginal tax rates on capital gains. ERTA lowered the maximum marginal tax rate on capital gains to 20 percent, effective June 9, 1981.[15] The lower maximum rate was in effect for all of 1982 and for years afterward. As a result of changes in the top marginal rate and in individual marginal tax rates generally, the estimated average marginal tax rate on gains dropped from 19.3 percent in 1980 to 17.8 percent in 1981 and 15.5 percent in 1982. The maximum marginal tax rate on capital gains remained at 20 percent in 1983, but the average marginal tax rate declined slightly further to 15.4 percent because of lower rates for taxpayers below the top bracket. Thus, realizations in both 1981 and 1982 reflect the large first-year effect of lowering marginal tax rates, while in 1983 the first-year effect is very small. The increase in realizations attributed to ERTA in 1983 reflects mainly the smaller estimated response to a long-run reduction in the tax rate on capital gains.

The contribution of the stock market to 1983 realizations is slightly negative ($-1.5 billion) because the value of corporate shares held by individuals increased by slightly less than the growth in personal income between 1980 and 1983.[16] The largest component of the difference between actual gains and gains predicted under 1980 law, $15.3 billion, is not explained by the equation.

Finally, row (9) of the table, labelled the "ERTA baseline" shows what capital gains realizations would have been if gains had increased at the same rate as personal income. These are the baseline numbers used in the other tables in this paper. The difference between predicted gains under 1980 law and the ERTA baseline is $10.6 billion in 1983. This difference is mostly due to the fact that the coefficients of the estimating equation for gains imply that realized gains rise more than proportionately with increases in personal income. Thus, the ERTA baseline may understate the secular growth rate in gains that

15. ERTA was enacted in August, 1981, but the capital gains provisions had been introduced earlier in the legislative process and may have been anticipated prior to final enactment.

16. The increase in the nominal value of corporate equities held by households between the end of 1980 and the end of 1983 was 22.7 percent. This consisted of a decline of 4.5 percent in 1981, an increase of 12.4 percent in 1982 and an increase of 14.4 percent in 1983. Thus, while the change in stock market values, compared to the baseline, contributed to slightly lower growth in capital gains realizations over the three-year period, it contributed positively to the growth of realizations in both 1982 and 1983.

should have been expected, absent any tax policy change, and so result in too large an estimate of induced behavioral effects.

Table IV.5 shows a range of estimated effects of additional capital gains realizations (defined as actual realizations minus the amount predicted under 1980 law) on tax payments by the top percentile of returns. The CBO and Treasury equations explain only total capital gains realizations, not their distribution among income groups. The top three rows of Table IV.5 show that additional realizations of capital gains account for $3.7 billion of additional taxes paid by the top percentile in 1983, if the additional realizations are assumed to have all occurred among the top 1 percent of returns. Of this amount, the estimated induced realizations due to lower tax rates contributed $1.0 billion in taxes; the remaining $2.7 billion includes the stock market effect and the unex-

TABLE IV.5. ESTIMATED EFFECTS OF ADDITIONAL CAPITAL GAINS REALIZATIONS ON TAXES PAID BY TOP PERCENTILE OF RETURNS: 1983 (In billions of dollars)

	Additional Realizations a/	Associated Revenue b/
Maximum Effect: All Additional Realizations in Top 1 Percent		
Total	19.0	3.7
Tax Rate Effect	5.2	1.0
Other or Unexplained	13.8	2.7
Minimum Effect: Additional Realizations Same Proportion in all Income Groups		
Total	11.7	2.3
Tax Rate Effect	3.2	0.6

a. Actual 1983 amounts in excess of projected realizations under 1980 law.

b. Revenue from taxes on additional capital gains, at estimated 1983 marginal tax rate on capital gains. This is not a net revenue estimate, because it does not take account of lower revenues from those gains that would have been realized under 1980 law. If one assumes all induced gains were in the top 1 percent, the equation implies a static reduction from lower capital taxes of $4.2 billion, offset by a pickup of $1.0 billion from increased realizations for a net revenue loss of $3.2 billion. At the extreme, if all the additional realizations were attributable to the tax reduction, there would be a net revenue loss of only $0.1 billion.